REMARKS

Claims 1-39 are pending. Claims 1, 14, and 27 have been amended and are independent. Support for the amendments can be found, *inter alia*, in FIG. 3.

Claim Objections

Claims 4, 17, and 30 have been rejected for informalities related to the term "each microcell". Applicants assert that the objection is now moot given the amendment to the claims.

35 U.S.C. § 112 rejections

Claims 1, 14, and 27 are rejected under 35 U.S.C. § 112. Applicants respectfully traverse.

Applicants submit that amended claims 1, 14, and 27 no longer include terms lacking antecedent basis. Applicants assert that the rejection is now moot given the amendment to claims 1, 14, and 27.

35 U.S.C. § 103 rejections

Claims 1, 2, 4, 14, 15, 17, 27, 28, and 30 are rejected under 35 U.S.C. §103(a) as being unpatentable over Fujii et al. in view of Keskitalo et al.

With regard to claim 1, Applicants assert that Fujii et al. and Keskitalo et al., separately or in any proper combination, fail to disclose:

> . . . the steerable N-dimensional array for serving the microcell within the macrocell, the base station being in the macrocell but not the microcell.

Instead, Fujii et al. is directed to a structure of cells within a mobile communication system. Fujii et al. discloses outer cells including inner cells -- the cells are concentric to each other. Moreover, each inner cell and outer cell are supported by a separate base station. Fujii et al. focus on keeping a predetermined distance between inner cells to avoid frequency issues. In the relevant figures of Fuji et al. the base station is within each inner cell. Therefore, Fujii et al. cannot disclose or suggest a steerable N-dimensional array for serving a microcell within a macrocell, a base station being in the macrocell but not the microcell as recited in claim 1.

Keskitalo et al. is directed to base station equipment and a method for steering an antenna beam. Keskitalo et al. disclose a method for steering an antenna beam and base station equipment including at least one antenna array having a plurality of elements and at least one channel unit having a means for phasing a signal to be transmitted and received by the antenna array such that gain from the antenna array is the greatest in the desired direction. Keskitalo et al. does not teach inner cells without a base station. Therefore, Fuji et al. cannot disclose or suggest a steerable N-dimensional array for serving a microcell within a macrocell, a base station being in the macrocell but not the microcell as recited in claim 1. Claim 1 is not made obvious to one skilled in the art by Fujii et al. in view of Keskitalo et al.

With regard to independent claims 14 and 27, claims 14 and 27 include similar features as claim 1. Claims 14 and 27 are allowable at least for the reasons stated for independent claim 1.

With regard to dependent claims 2, 4, 15, 17, 28, and 30, Applicants submit that claims 2, 4, 15, 17, 28, and 30 are allowable at least because they each depend from at least one of independent claims 1, 14, and 27.

Applicants respectfully request that the art grounds of rejection be withdrawn.

Claims 3, 8, 16, 21, 29 and 34 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii et al in view of Keskitalo et al. in view of Raith et al.

As shown above, Fujii et al. in view of Keskitalo et al. fail to disclose a steerable N-dimensional array for serving a microcell within a macrocell, a base station being in the macrocell but not the microcell as recited in claim 1; steering a resultant beam of at least one steerable N-dimensional (N≥2) array toward an at least one microcell, the microcell being within a macrocell, a base station being in the macrocell but not the microcell as recited in claim 14; and a steerable N-dimensional (N≥2) array . . . for serving a microcell within a macrocell, . . . a base station being in the macrocell but not the microcell as recited in claim 27.

The disclosure of Raith et al is directed to a method for increasing throughput capacity of a mobile station transmitting a plurality of consecutive

bursts to a base station in a communication system is disclosed. The first burst being transmitted using a normal burst format while succeeding consecutive bursts are transmitted using an auxiliary burst format wherein the auxiliary bursts contain larger data fields than normal bursts. Raith et al. fail to disclose a microcell within a macrocell and base station being in the macrocell but not the microcell. Therefore, Raith et al. cannot disclose or suggest the elements of claims 1, 14, and 27. Claims 1, 14, and 27 are not made obvious to one skilled in the art by Fujii et al. in view of Keskitalo et al. in view of Raith et al.

With regard to dependent claims 3, 8, 16, 21, 29 and 34, Applicants assert that claims 3, 8, 16, 21, 29 and 34 are allowable at least because they each depend from at least one of independent claims 1, 14, and 27 which have been shown to be allowable.

Applicants respectfully request that the art grounds of rejection be withdrawn.

Claims 12, 13, 25, 26, 38, and 39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii et al in view of Keskitalo et al. in view of Raith et al. (Another Version) Applicants respectfully traverse.

Applicants point out that the Examiner has not specified which Raith et al. version the Examiner is basing the rejection on if the version is not U.S. Patent 5,818,829 .

With regard to dependent claims 12, 13, 25, 26, 38, and 39 Applicants assert that claims 12, 13, 25, 26, 38, and 39 are allowable at least because

they each depend from at least one of independent claims 1, 14, and 27 which have been shown to be allowable.

Applicants respectfully request that the art grounds of rejection be withdrawn.

Claims 5, 6, 10, 18, 19, 23, 31, 32, and 36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii et al in view of Keskitalo et al. in view of Velazquez et al.

As shown above, Fujii et al. in view of Keskitalo et al. fail to disclose a steerable N-dimensional array for serving a microcell within a macrocell, a base station being in the macrocell but not the microcell as recited in claim 1; steering a resultant beam of at least one steerable N-dimensional (N≥2) array toward an at least one microcell, the microcell being within a macrocell, a base station being in the macrocell but not the microcell as recited in claim 14; and a steerable N-dimensional (N≥2) array . . . for serving a microcell within a macrocell, . . . a base station being in the macrocell but not the microcell as recited in claim 27.

The disclosure of Velazquez et al. is directed to a communication system using geographic position data. Velazquez et al. disclose a wireless communication system that employs directive antenna arrays and knowledge user positions to form narrow antenna beams to and from desired users and away from undesired users to reduce co-channel interference. By reducing co-channel interference coming from different directions, spatial filtering with

antenna arrays improves the call capacity of the system. Velazquez et al. fail to disclose a microcell within a macrocell and base station being in the macrocell but not the microcell or a steerable array. Therefore, Velazquez et al. cannot disclose or suggest the elements of claims 1, 14, and 27. Claims 1, 14, and 27 are not made obvious to one skilled in the art by Fujii et al. in view of Keskitalo et al. in view of Velazquez et al.

With regard to dependent claims 5, 6, 10, 18, 19, 23, 31, 32, and 36 Applicants assert that claims 5, 6, 10, 18, 19, 23, 31, 32, and 36 are allowable at least because they each depend from at least one of independent claims 1, 14, and 27 which have been shown to be allowable.

Applicants respectfully request that the art grounds of rejection be withdrawn.

Claims 7, 9, 20, 22, 33, and 35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujii et al., Keskitalo et al., and Velazquez et al. in view of Searle.

As shown above, Fujii et al., Keskitalo et al., and Velazquez et al. fail to disclose a steerable N-dimensional array for serving a microcell within a macrocell, a base station being in the macrocell but not the microcell as recited in claim 1; steering a resultant beam of at least one steerable N-dimensional (N≥2) array toward an at least one microcell, the microcell being within a macrocell, a base station being in the macrocell but not the microcell as recited in claim 14; and a steerable N-dimensional (N≥2) array . . . for serving a

microcell within a macrocell, . . . a base station being in the macrocell but not the microcell as recited in claim 27.

The disclosure of Velazquez et al. is directed to an adaptive filter. Searle discloses an adaptive filter that may be realized by weighting outputs from a tapped delay line. This allows nulls to corrupt a wanted signal spectral region. A fixed (non-adaptive) filter (2) coupled between a signal input and an input for summing weighted outputs helps allows nulls only to be formed in a skirt region of a fixed filter response which helps preserve a wanted signal. Searle fails to disclose a microcell within a macrocell and base station being in the macrocell but not the microcell or a steerable array. Therefore, Searle cannot disclose or suggest the elements of claims 1, 14, and 27. Claims 1, 14, and 27 are not made obvious to one skilled in the art by Fujii et al., Keskitalo et al., and Velazquez et al. in view of Searle.

With regard to dependent claims 7, 9, 20, 22, 33, and 35 Applicants assert that claims 7, 9, 20, 22, 33, and 35 are allowable at least because they each depend from at least one of independent claims 1, 14, and 27 which have been shown to be allowable.

Applicants respectfully request that the art grounds of rejection be withdrawn.

CONCLUSION

In view of above remarks, reconsideration of the outstanding rejection and allowance of pending claims 1-39 is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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